CHAPTER 1

THE SKILLS

AutoCAD

FOR SUCCESS

Getting to Know AutoCAD

▶ **Opening a new drawing**

▶ **Getting familiar with the AutoCAD and AutoCAD LT graphics windows**

▶ **Modifying the display**

▶ **Displaying and arranging AutoCAD tools**

4386886c01.qxd 4/23/09 8:43 PM Page 2

2 Chapter 1 • Getting to Know AutoCAD

Y our introduction to AutoCAD and AutoCAD LT begins with a tour of the
user interfaces of the two programs. In this chapter, you'll also learn how
to use some tools that help you control their appearance and how to find
and start commands. For the material covered in this chapter, the two
applications are almost identical in appearance. Therefore, as you tour AutoCAD,
I'll point out any differences between AutoCAD and AutoCAD LT. In general, LT
is a 2D program, so it doesn't have most of the 3D features that come with Auto-
CAD, such as solids modeling and rendering. The AutoLISP programming lan-
guage found in AutoCAD is also absent from LT, as is the Action Recorder. The
other differences are minor. As mentioned in this book's introduction, when I
say AutoCAD, I mean both AutoCAD and AutoCAD LT. I'll also specifically refer to
AutoCAD LT as LT throughout this chapter and the rest of the book. Starting
AutoCAD is the first task at hand.

Starting AutoCAD

If you installed AutoCAD using the default settings for the location of the pro-
gram files, start the program by choosing Start ➢ Programs ➢ Autodesk ➢
AutoCAD 2010 ➢ AutoCAD 2010 or by choosing Start ➢ Programs ➢ Autodesk
➢ AutoCAD LT 2010 ➢ AutoCAD LT 2010, depending on your program. (This
command path might vary depending on the Windows operating system and
scheme you are using.) You can also find and double-click the AutoCAD 2010
icon or the AutoCAD LT 2010 icon on your desktop.

The Initial Setup Dialog Box

When you first start AutoCAD, you may encounter the Initial Setup dialog box
shown in Figure 1.1. In this dialog box, you can select the field most closely
associated with the type of drawings you create. AutoCAD then displays the Rib-
bon panels and palettes usually associated with that field.

If you encounter this dialog box, click the Skip button. AutoCAD has several
available configurations, and clicking Skip will be more likely to result in your
setup looking like the one in this book. You'll next encounter the Initial Setup
dialog box shown in Figure 1.2. Be sure the Remind Me The Next Time AutoCAD
2010 Starts option is checked, and then click the Start AutoCAD 2010 button.
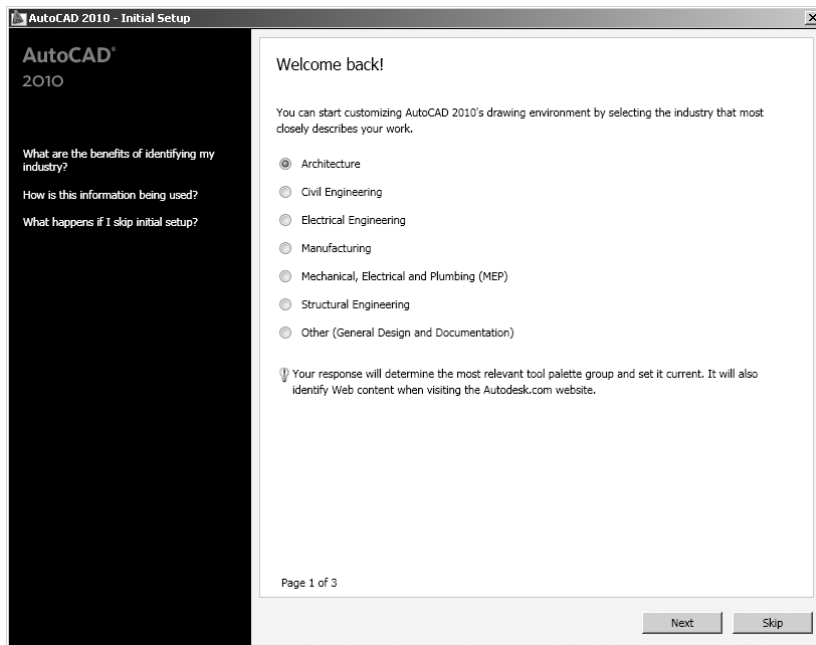
F I G U R E 1 . 1 : The first Initial Setup dialog box
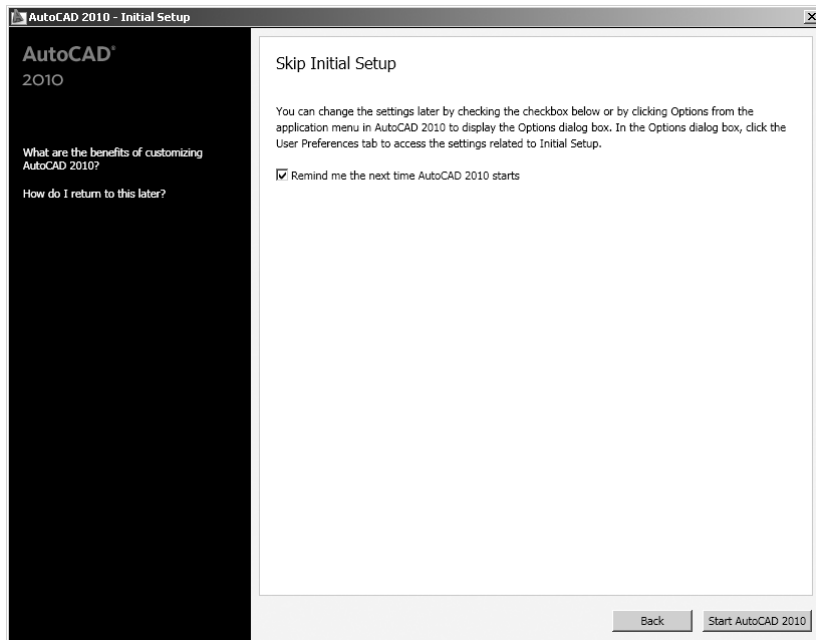
**F I G U R E 1 . 2 :** The second Initial Setup dialog box

ACCESSING THE INITIAL SETUP DIALOG BOXES

To access the Initial Setup dialog boxes after the program has started, enter
op↵ to open the Options dialog box, click the User Preferences tab, and
then click the Initial Setup button.
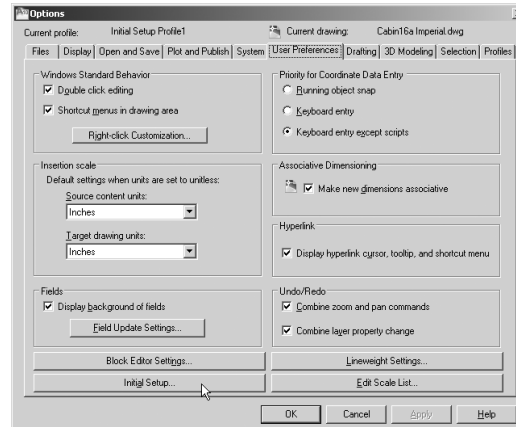
Exploring the New Features Workshop

The New Features Workshop welcome screen opens when you first start
AutoCAD and leads to several animated demonstrations and explanations
of the new features included in the latest release of AutoCAD (see Figure 1.3).
This is a quick and easy way to see how AutoCAD 2010 has improved over Auto-
CAD 2009 and which tools you can use to augment any skills you already have.
Choosing Maybe Later on the left side causes the dialog box to reappear every
time you start AutoCAD. Choosing the No, Don't Show This To Me Again option
dismisses the dialog box indefinitely. If you choose that option, you must then
access the New Features Workshop through the Help button on the right end of
the AutoCAD title bar.
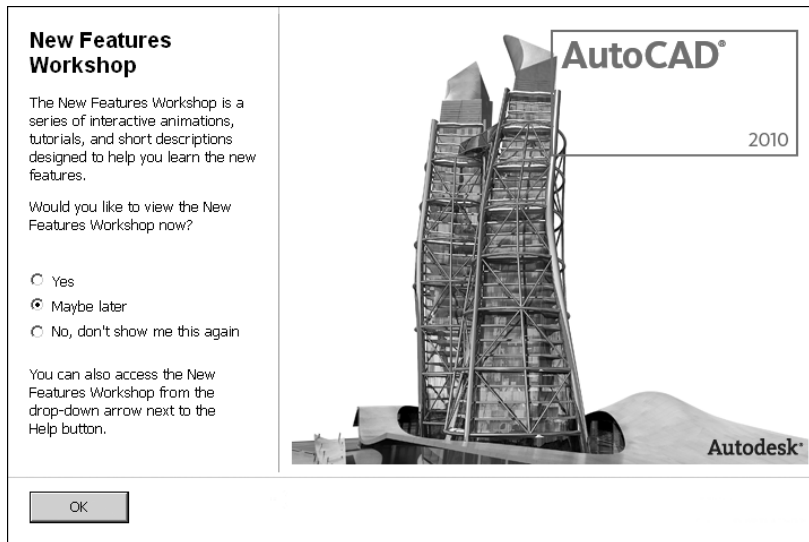
F I G U R E   1 . 3 : The AutoCAD welcome screen provides access to the New Features Workshop.

Selecting the Yes radio button on the left side of the dialog box opens the New Features Workshop dialog box (see Figure 1.4). Here you navigate to and select the feature you want to investigate in the left pane and observe the selection in the right pane. The drop-down list in the upper-left corner provides access to the New Features Workshops for other Autodesk products installed on your system.
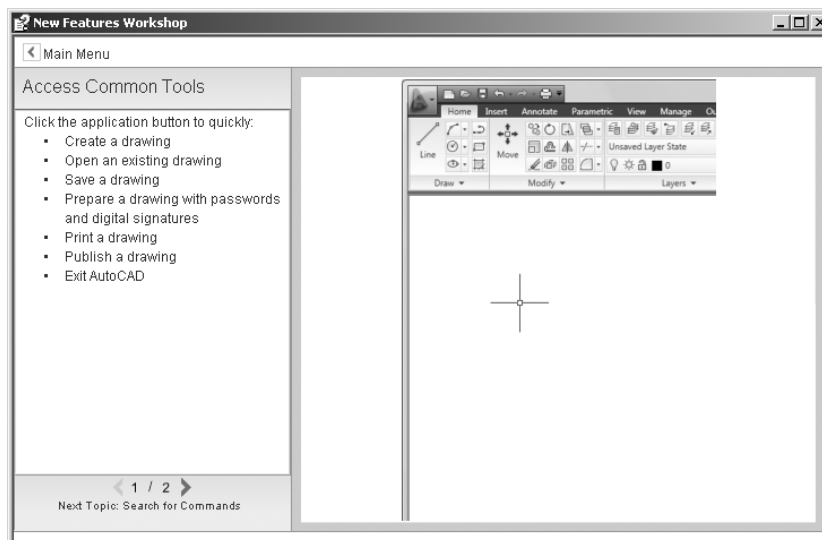
F I G U R E   1 . 4 : The New Features Workshop dialog box

The Customer Involvement Program

Nearly all the recent releases of Autodesk products include the opportunity to participate in a customer involvement program (CIP). The CIP is designed to collect nonpersonal information about your Autodesk products and computer system to help the product programmers and developers design software that best meets your needs. If you haven't yet agreed or declined to participate, when you first start AutoCAD the Customer Involvement Program dialog box (Figure 1.5) might prompt you to join.
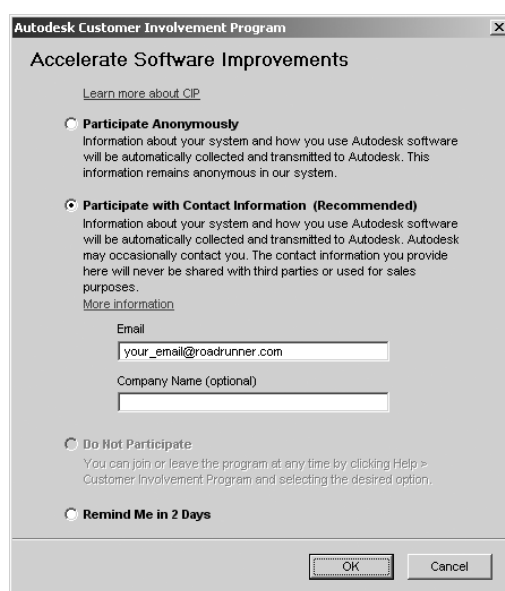

F I G U R E   1 . 5 : The Customer Involvement Program dialog box

Participation is strictly voluntary and, if you choose to participate, AutoCAD will periodically send a small file to Autodesk containing information such as your software name and version, the commands you use, and your system configuration information. An Internet connection is required, and you must ensure that your firewall settings don't prevent the information from being transmitted.

Exploring the AutoCAD User Interface

After bypassing the initial dialog boxes that AutoCAD provides, the program opens to display the AutoCAD user interface, also called the *graphics window*. AutoCAD provides many methods for creating and editing objects, changing the view of a drawing, or executing AutoCAD file maintenance or other utilities. In LT, your screen looks similar to Figure 1.6. For AutoCAD, your monitor displays one of three *workspaces*:

◄
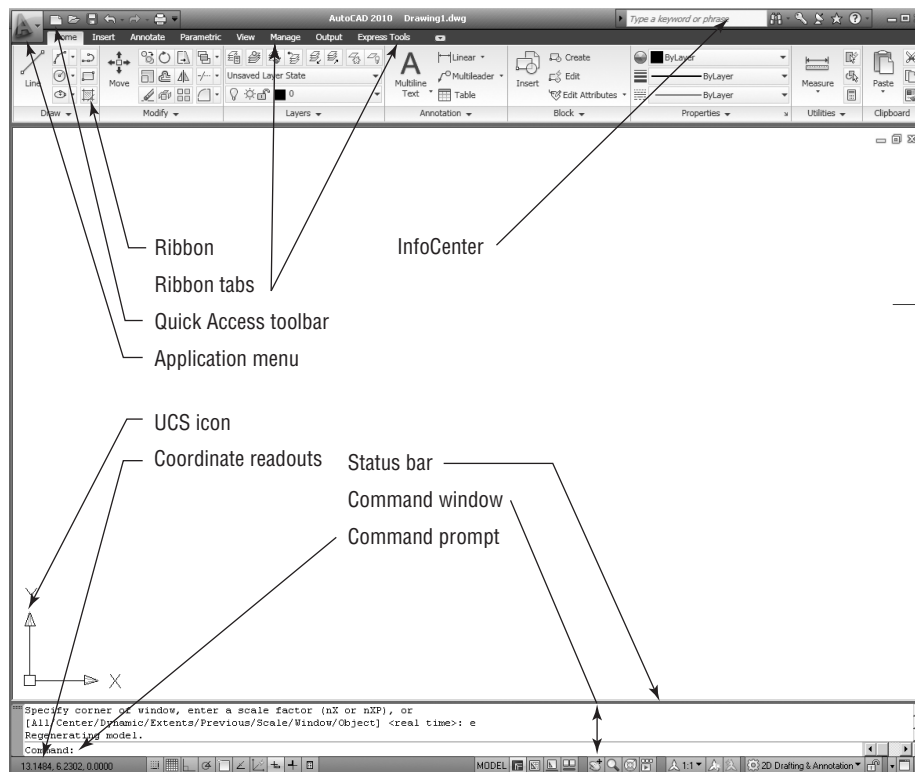
AutoCAD and LT offer numerous dialog boxes with various combinations of buttons and text boxes. You'll learn many of their functions as you progress throughout the book.

F I G U R E   1 . 6 : The AutoCAD graphics window using the 2D Drafting & Annotation workspace

► The 2D Drafting & Annotation workspace (shown in Figure 1.6)

► The AutoCAD Classic workspace

► For AutoCAD users only, the 3D Modeling workspace (see Figure 1.7)
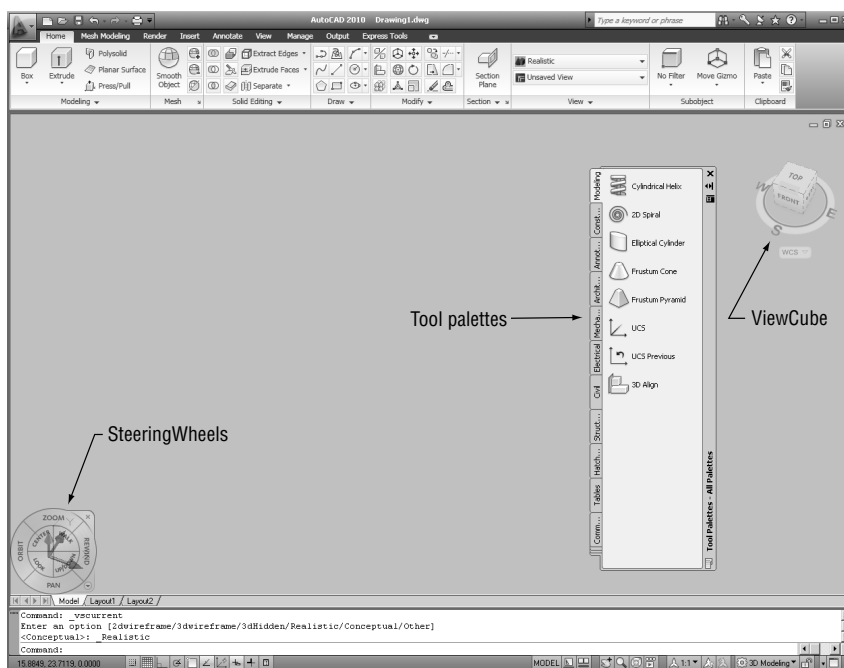
F I G U R E   1 . 7 : The AutoCAD graphics window using the 3D Modeling workspace

You'll be using the 2D Drafting & Annotation workspace for the first 15 chapters in this book. In the final two chapters, you'll switch to the 3D Modeling workspace. For now, however, you need to get your AutoCAD user interface to look like Figure 1.6.

N O T E   The figures and graphics in this book show the drawing area of the AutoCAD user interface with a white background, but the default, and preferred, method is to use a black background to reduce eyestrain. The color choice in the book is simply for readability.

If your screen looks like Figure 1.7, or isn't at all like Figure 1.6, you need to make a few changes:

1. Click the Workspace Switching button in the status bar, and choose 2D Drafting & Annotation, as shown in Figure 1.8. Alternately, you can enter wscurrent↵ 2d drafting & annotation↵.
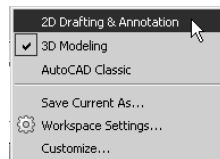
**FIGURE 1.8:** Selecting the 2D Drafting & Annotation workspace

2. The 2D Drafting & Annotation workspace may display the tool *palettes* on the screen. If the palettes are displayed, you need to turn them off for now by clicking the X in the upper-right corner. Your workspace might have different palettes displayed than those shown in Figure 1.9. If other palettes are still visible, click the X in the upper-right or upper-left corner of each palette to close them.
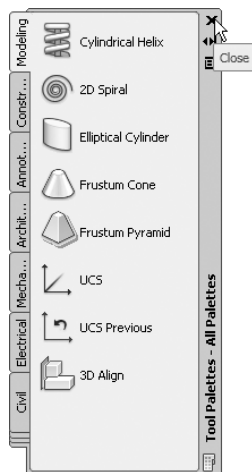
FIGURE 1.9: The tool palettes

**3.** The large area in the middle of the screen is called the *drawing area*. It might need adjusting. Enter **visualstyles**↵ to open the Visual Styles Manager, and then click the 2D Wireframe option (see Figure 1.10). Close the Visual Styles Manager.

◄

LT users can skip step 3 and move on to step 4.
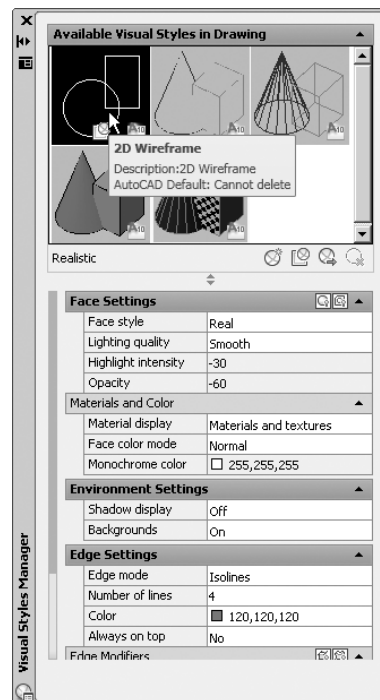
FIGURE 1.10: Selecting the 2D Wireframe visual style

4. Enter **plan⏎** and then **world⏎**, or click the World option in the pop-up menu if it appears, as shown in Figure 1.11. This procedure ensures that your view is perpendicular to the drawing area. It should be as though you were looking straight down at a piece of paper on a drawing table.
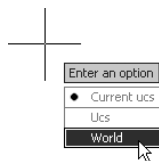
FIGURE 1.11: Selecting the World option from the pop-up menu

If dots appear in the drawing area, the grid, a drawing aid that we'll look at later, is turned on.

5. Move the cursor to the left side of the status bar at the bottom of the screen, and click the Grid Display button so it's in the Off (unpushed) position and the dots disappear. Be sure all the other readout buttons except Dynamic Input are in their Off (unpushed) positions. You can pause your cursor over each button to reveal its name in a tooltip.

Your screen should now look similar to Figure 1.6.

Introducing the AutoCAD Graphics Window

At the top of the graphics window (see Figure 1.12) sit the Ribbon, the Quick Access toolbar to the left, and the InfoCenter and related tools on the right.


F I G U R E 1 . 1 2 : The Ribbon, Quick Access toolbar, and InfoCenter
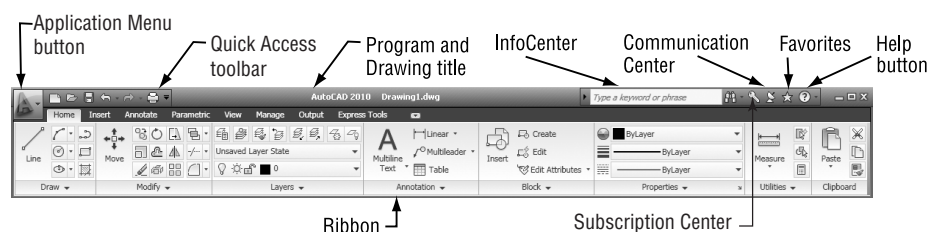
> The title bar and menu bar at the top of the LT screen are identical to those in AutoCAD except that *AutoCAD LT* appears in the title bar rather than AutoCAD.

The *title bar* is analogous to the title bar in any Windows program. It contains the program name (*AutoCAD* or *AutoCAD LT*) and the title of the current drawing with its *path*, as long as any drawing other than the default `Drawingn.dwg` is open. Below the title bar is the *Ribbon*, where you'll find most of the AutoCAD commands and tools needed to complete any drawing task. Related tasks are found under the different tabs, which are further segmented into panels containing similar tools.

To the far right of the title bar is the InfoCenter containing the Search, Subscription Center, Communication Center, Favorites, and Help buttons. You can enter a question in the field to the left of the Search button to access information from the Help system quickly through the drop-down panel. With the Communication Center, you can determine what type of information, such as software updates, product support, or Really Simple Syndication (RSS) feeds, Autodesk sends directly to your system. With the Favorites tool, you can define a list of help or informational topics that can be quickly accessed whenever you need them. The Help button is a direct link to the AutoCAD help system.

4386886c01.qxd 4/23/09 8:44 PM Page 12

The blank middle section of the screen is called the *drawing area*. Notice the movable *crosshair cursor* (see Figure 1.13). The crosshairs on your cursor might extend completely across the screen. Later in this chapter, I will show you how to modify the length of the crosshairs as well as make a few other changes.
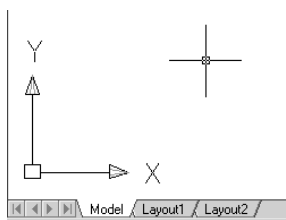

F I G U R E   1 . 1 3 : The crosshair cursor placed near the UCS icon

Notice the little box at the intersection of the two crosshair lines. This is one of several forms of the AutoCAD cursor. When you move the cursor off the drawing area, it changes to the standard Windows pointing arrow. As you begin using commands, it will take on other forms, depending on which step of a command you're performing.

The icon with a double arrow in the lower-left corner of the drawing area is the *UCS icon* (UCS stands for *user coordinate system*). It indicates the positive direction for the x- and y-axes. You won't need it for most of the chapters in this book, so you'll learn how to turn it off in Chapter 3, "Setting Up a Drawing."

Below the drawing area is the *Command window,* shown in Figure 1.14.

```
Command: visualstyles
Command:
VISUALSTYLES
Command:
```
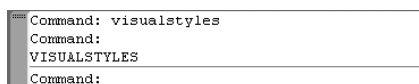
F I G U R E   1 . 1 4 : The Command window

When you enter commands in addition to using the Ribbon or pop-up menus, the Command window is where you tell the program what to do and where the program tells you what's happening. It's an important feature, and you'll need to learn how it works in detail. Four lines of text should be visible. You'll learn how to increase the number of visible lines later in this chapter in the section "Working in the Command Window." When the Dynamic Input feature is active, much of the Command window information is displayed at the cursor as well.

Below the Command window is the *status bar* (see Figure 1.15).

F I G U R E   1 . 1 5 : The left side of the status bar (top) and the right side of the status bar (bottom)

On the left end of the status bar, you'll see a coordinate readout window. In the middle are 10 buttons (LT has only 9) that activate various drawing modes. It's important to learn about the coordinate system and most of these drawing aids (Snap Mode, Grid Display, Ortho Mode, Object Snap, and so on) early on as you learn to draw in AutoCAD. They will help you create neat and accurate drawings. Polar Tracking and Object Snap Tracking are advanced drawing tools and will be introduced in Chapter 5, "Developing Drawing Strategies: Part 2." Dynamic UCS stands for *Dynamic User Coordinate System*; it's used in 3D drawings and is not available in LT. The Dynamic Input button is an On/Off toggle that activates or suppresses the dynamic display of information next to the crosshair cursor when it's in the drawing area. For now, keep it in the On (pushed) mode. The Show/Hide Lineweight button toggles the display of *line weights (*discussed in Chapter 14, "Using Layouts to Set Up a Print") in the drawing area. When active, the Quick Properties tool displays the most common properties for the selected object(s) in a dialog box where they can be edited. If you prefer text-based buttons rather than icons, you can right-click on any of the tools mentioned here and uncheck the Use Icons option.

At the right side of the status bar are tools for controlling the appearance of annotation objects in AutoCAD, tools for navigating in the drawing area and controlling the display, and tools to control access to other drawings or features within the current drawing. The padlock icon controls which types of toolbars and windows are locked in their current positions on the screen. Leave it in the unlocked mode for now.

To conclude this quick introduction to the various parts of the graphics window, I need to mention a couple of items that might be visible on your screen. You might have scroll bars below and to the right of the drawing area; although they can be useful, they can take up precious space in the drawing area. They won't be of any use while working your way through this book, so I suggest you remove them for now.

To remove these features temporarily, follow these steps:

1. Click the Application menu button in the upper-left corner of the AutoCAD window, and then click the Options button at the bottom of the menu (see Figure1.16), or enter **options**↵.
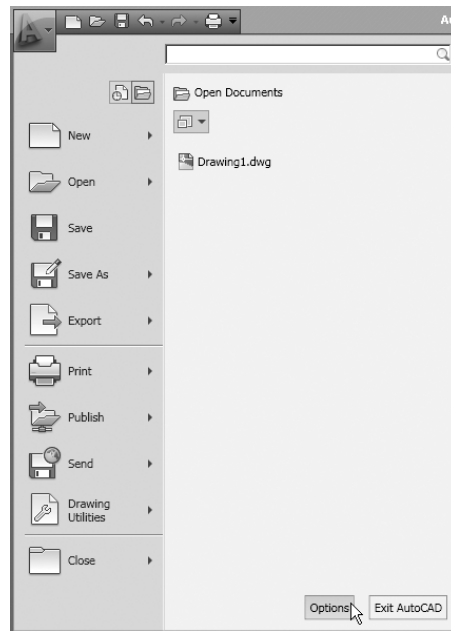
F I G U R E   1 . 1 6 : Click the Options button in the Application menu.

The Options dialog box (shown in Figure 1.17) opens. It has 10 tabs (LT has only 8) across the top that act like tabs on file folders.
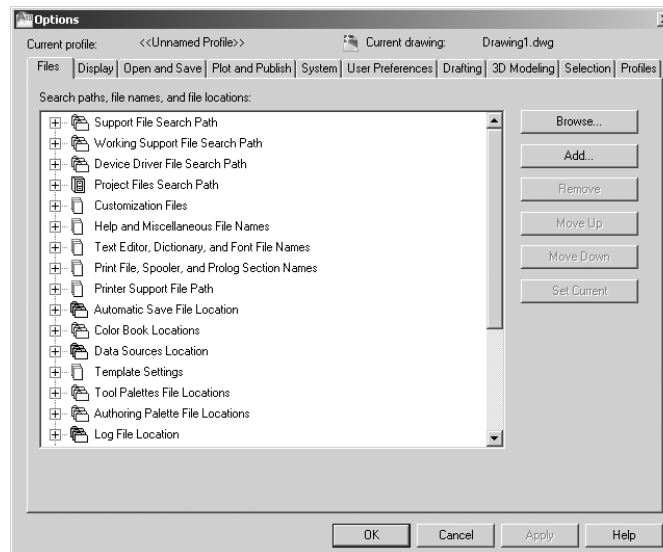
F I G U R E   1 . 1 7 : The Options dialog box

2. Click the Display tab, which is shown in Figure 1.18. Focus on the Window Elements section. If scroll bars are visible on the lower and right edges of the drawing area, the Display Scroll Bars In Drawing Window check box will be selected.
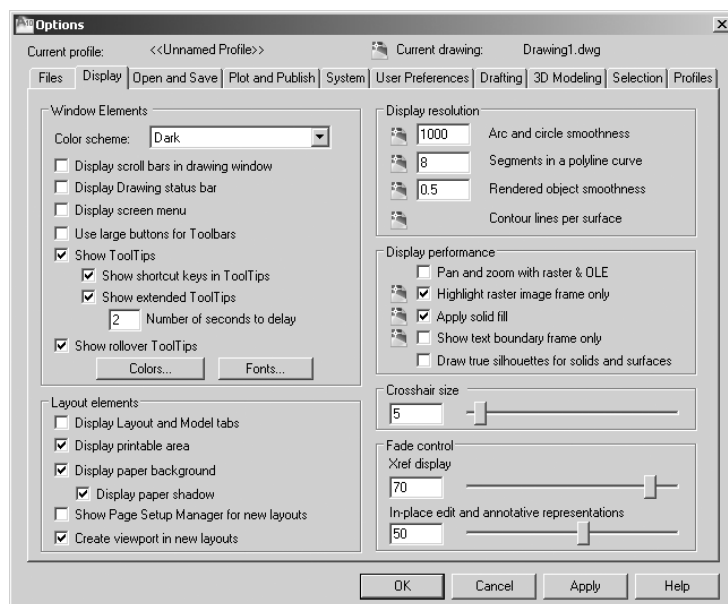
F I G U R E 1 . 1 8 : The Options dialog box open at the Display tab

3. Click the check box to turn off the scroll bars. Also be sure the check boxes for Display Screen Menu and, in the Layout Elements section, Display Layout And Model Tabs are not selected. Don't click the OK button yet.

◄

LT doesn't have the screen menu, so the option to turn it off isn't on LT's Display tab.

Another display setting that you might want to change at this point controls the color of the cursor and the drawing area background. If you want to change the colors, follow these steps:

1. In the Window Elements area of the Display tab, click the Colors button to open the Drawing Window Colors dialog box (see Figure 1.19). In the upper-left corner of the dialog box, in the Context list box, 2D Model Space should be selected. If it's not, select it.
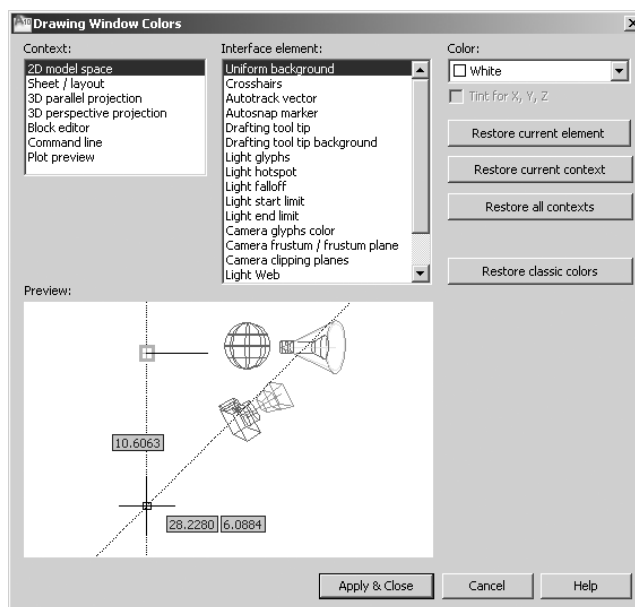
F I G U R E   1 . 1 9 : The Drawing Window Colors dialog box

N O T E   **The screen-captured images in this book are taken from AutoCAD sessions using the Dark Color scheme. You can set the color scheme at the top of the Window Elements area and choose either the Light or Dark scheme.**

2. Move to the Color drop-down list, which is in the upper-right corner. If your drawing area background is currently white, a square followed by the word *White* is displayed. Open the Color drop-down list and select Black (or the background color you want). The drawing area will now be that color, and the cursor color will change to white, as shown in the Preview window in Figure 1.19.

3. Click the Apply & Close button to close the Drawing Window Colors dialog box. The background and cursor colors change.

4. If you want to change the length of the lines of your crosshair cursor, go to the lower-right corner of the Display tab (the middle of the right side for LT), and move the slider to change the Crosshair Size setting. The crosshair length changes as a percentage of the drawing area.

**5.** Click OK to apply any remaining changes, and close the Options dialog box.

T I P   **If you choose a color other than black as the drawing area background color, the color of the crosshair cursor remains the same as it was. To change the crosshair color, go to the Interface Element list box in the Drawing Window Colors dialog box and select Crosshairs. Then select a color from the Color drop-down list.**

Working in the Command Window

Just below the drawing area is the Command window. This window is separate from the drawing area and behaves like a Windows window—that is, you can drag it to a different place on the screen and resize it, although I don't recommend you do this at first. If you currently have fewer than four lines of text in the window, you should increase the window's vertical size. To do so, move the cursor to the horizontal boundary between the drawing area and the Command window until it changes to an up-and-down arrow broken by two parallel horizontal lines.

Hold down the left mouse button, drag the cursor up by approximately the same amount that one or two lines of text would take up, and then release the mouse button (see Figure 1.20). You should see more lines of text, but you might have to try this a few times to display exactly four lines. A horizontal line will separate the top two lines of text from the bottom line of text. When you close the program, AutoCAD will save the new settings. The next time you start AutoCAD, the Command window will display four lines of text.


```
[All/Center/Dynamic/Extents/Previous/Scale/
Regenerating model.

Command:
```
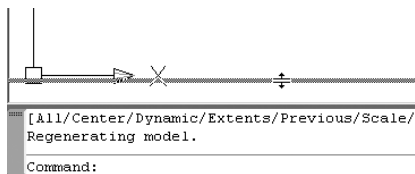
F I G U R E 1 . 2 0 : Resizing the Command window

The Command window is where you give information to AutoCAD and where AutoCAD prompts you for the next step in executing a command. It's a good practice to keep an eye on the Command window as you work on your drawing. Many errors can occur when you don't check it frequently. If the Dynamic Input button on the status bar is in the On position, some of the information in the Command window will appear in the drawing area next to the cursor. I'll cover this feature when you start drawing.

Before you begin to draw in the next chapter, take a close look at the Ribbon, Application menu, toolbars, and keyboard controls.

> **N O T E**   Often, you can start AutoCAD commands in a number of ways: from the Ribbon, the Application menu, the Command window, and the menus that appear when you right-click. When you get used to drawing with Auto-CAD, you'll learn some shortcuts that start commands quickly, and you'll find the way that best suits you.

Using the Ribbon

The Ribbon is a consolidated location for nearly all the AutoCAD tools in the form of easily recognizable buttons or drop-down lists. A set of tabs delineates the different collections of tools by their purposes: creating and editing objects, adding notes and dimensions, sending the drawing to a printer or plotter, and so on.

Displaying the Ribbon Tools

The Ribbon self-adjusts according to the width of the AutoCAD window. The panels have the most commonly used command as a button, larger than the others, centered on the left side (see the top of Figure 1.21). Often, this button has a down arrow below it that opens a menu displaying additional, similar commands. When the width is too narrow to display each panel fully, the panels will begin to collapse first by replacing the large buttons with smaller buttons and then by replacing the panels with a single button bearing the name of the panel. The collapsed panel's tools are displayed by clicking this single button, as shown at the bottom of Figure 1.21.
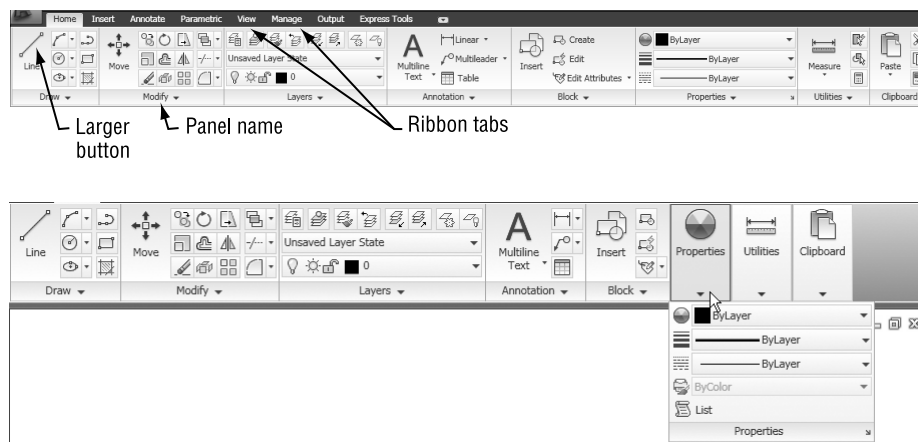

F I G U R E   1 . 2 1 : The Ribbon fully displaying all panels (top) and with partially and completely collapsed panels (bottom)

Collapsing, Moving, and Hiding the Ribbon

Available drawing area is always at a premium, and you can regain some of it by collapsing the Ribbon. When you click the Minimize button to the right of the Ribbon tabs once, the panels are collapsed vertically and only show their titles. Clicking it a second time collapses the Ribbon further until only the tabs show. When the Ribbon is in either of these states, you can expand any panel or tab by clicking its visible panel or tab name. Clicking the Minimize button a third time returns the Ribbon to its default state.

The Ribbon's default location is at the top of the screen, but it can be undocked, or floating over the drawing area; or it can be moved to a second monitor, or docked on either side of the drawing area. To undock the Ribbon, right-click to the right of the tab names and choose Undock from the pop-up menu, as shown in Figure 1.22.
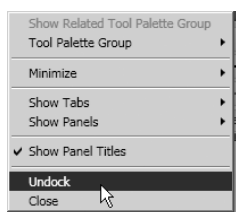
F I G U R E 1 . 2 2 : Undocking the ribbon

The Ribbon detaches from the top of the drawing area and floats on the screen, as shown in Figure 1.23. To dock it, click the title bar on the side of the floating Ribbon and drag it to the side or the top of the drawing area. Experiment with detaching the Ribbon, but when you are finished, dock it back at the top so that you can follow the graphics in this book more easily.
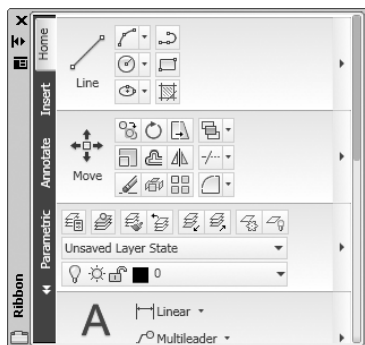

F I G U R E 1 . 2 3 : The Ribbon after undocking it from the top of the drawing area

If you don't want the Ribbon at all, you can turn it off by right-clicking to the right of the Ribbon tabs and choosing Close. To turn it on, enter **ribbon**↵. You'll use the Ribbon throughout this book.

Using the Ribbon Tools

Each panel contains tools from a related family of functions. For example, all the common tools for editing objects in the drawing area are consolidated in the Modify panel. When more tools are available than will fit on the panel, an arrow is displayed on the panel's title bar. Clicking the title bar expands the panel and exposes the additional tools. Follow these steps to learn how the Ribbon tools work and how they display information.

1. Click the Home tab on the Ribbon to expose the Home tab's panels (see the top of Figure 1.21 shown earlier).

2. Move the cursor over the Modify panel. The panel and panel title bar change from light gray to white to indicate that that panel has the program's focus, while the tool or feature directly beneath the cursor turns blue.

3. Pause the cursor over the Bring To Front button to expose the button's tooltip, as shown at the top of Figure 1.24. This tooltip displays the name of the tool, a brief description of its function, the command-line equivalent of clicking the tool, and instructions to click the F1 key to open the AutoCAD Help file to the current tool's Help page.
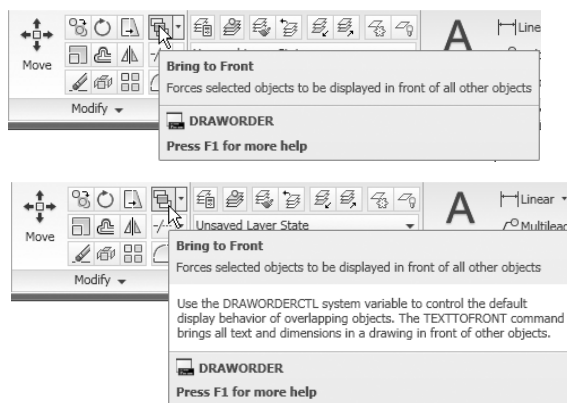

F I G U R E 1 . 2 4 : The tooltip for the Bring To Front command (top) and the extended tooltip (bottom)

4. After a few seconds of hovering over the Bring To Front button, the tooltip expands to display the extended tooltip (see the bottom of Figure 1.24) with a more complete description.

5. Pause the cursor over the Copy button in the Modify panel. This time, after a few seconds, the tooltip is replaced with a cue card, as shown in Figure 1.25, instead of an extended tooltip. Cue cards show the step-by-step implementation of the tool.
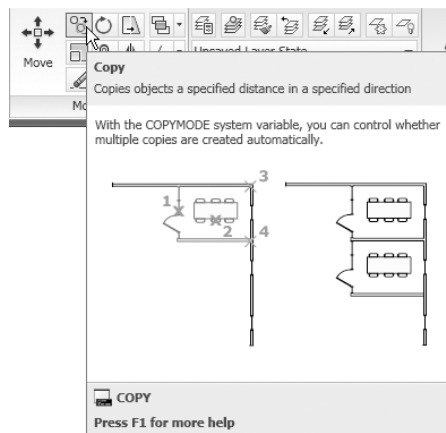

F I G U R E 1 . 2 5 : The cue card for the Copy tool

6. Click the Modify panel's title bar to expand the panel and expose all of the Modify tools.

7. Often, you may find yourself returning to the same tool on an expanded Ribbon panel. When that happens, you can pin the panel open by clicking the pushpin-shaped button in the bottom-left corner. When the panel is pinned open, it remains open even when the cursor is not hovering over it (see Figure 1.26).
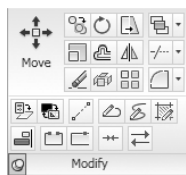
F I G U R E 1 . 2 6 : The Modify panel pinned to stay open

8. Click the button again to unpin the panel, and then move the cursor off the panel to collapse it.

Customizing the Ribbon

You can customize each panel of the Ribbon, and you can build your own custom tabs and panels to display only the buttons you use frequently. You can even design your own buttons for commands that aren't already represented by buttons on the toolbars. These activities are for more advanced users, however, and aren't covered in this book. To find out more about how to customize toolbars, see *Mastering AutoCAD 2010 and AutoCAD LT 2010* by George Omura (Wiley, 2009).

Using the Application Menu

The Application menu contains the tools for opening, saving, and printing your drawings, similar to the options found under the File pull-down menu in Auto-CAD and many other programs. The tools menus now project from the upper-left corner of the AutoCAD window and cover the drawing area and any open dialog boxes, but only when the Application Menu is open.

1. Click the Application menu button, the large, red A button in the top-left corner of the AutoCAD window, to open the Application menu.

2. The left pane of the Application menu displays the different commands. Clicking or hovering over a menu displays the command options in the right pane, as shown in Figure 1.27.


F I G U R E 1 . 2 7 : The Application menu showing the Print command options

A bar with an up or down arrow at the top or bottom of the right pane
indicates that additional tools are available. You can display these
tools by placing your cursor over either bar.

Opening a Drawing with the Application Menu

The Application Menu offers a quick method for opening drawings. You can even
see a thumbnail preview of the drawings and arrange drawings that you fre-
quently edit so that they are easily accessible. Here's how:

1. To open a new AutoCAD file from the Application menu, click New ➢
Drawing, as shown in Figure 1.28.
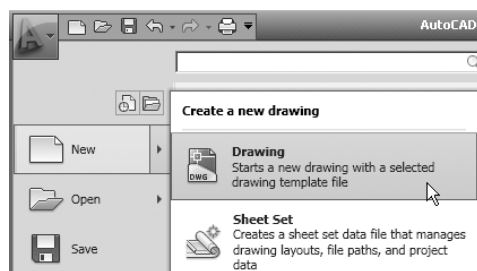
F I G U R E 1 . 2 8 : Opening a new drawing from the Application menu

This opens the Select Template dialog box, where you select a template
on which to base the new drawing. Opening a file with a template is
covered in Chapter 2, "Learning Basic Commands to Get Started."

2. To open an existing file from the Application menu, click Open ➢
Drawing as shown in Figure 1.29.
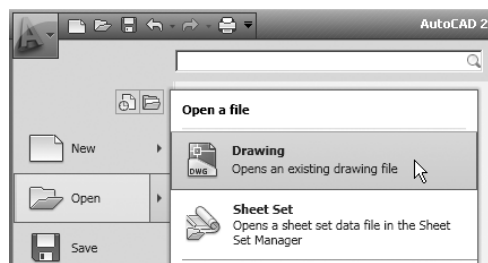
F I G U R E 1 . 2 9 : Opening an existing drawing from the Application menu

This opens the Select File dialog box, where you can navigate to the desired drawing file and select it.

OPENING NEW FILES

You can open new or existing files using the QNew or Open button in the Quick Access toolbar. Existing drawings can also be opened by dragging them from a Windows Explorer window to the AutoCAD title bar.

3. To open a file that you've worked on recently, click the Recent Documents button at the top of the Application menu's left pane. This displays the most recent files opened in AutoCAD in the right pane, as shown in Figure 1.30.
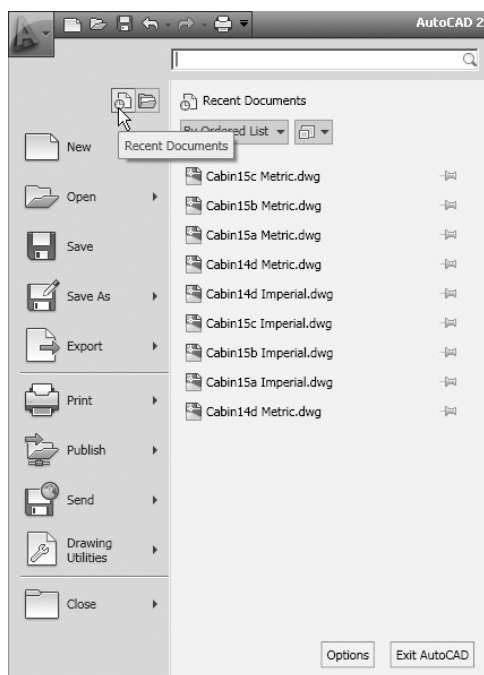

F I G U R E   1 . 3 0 : Displaying the recent documents in the Application menu

4386886c01.qxd 4/23/09 8:44 PM Page 25

The Recent Documents list is updated whenever a new drawing is
opened. Clicking the pushpin icon next to a drawing name in the
right pane pins that drawing to its current location in the list.
Pinned documents don't scroll off the list when newer files are
opened.

4. Hover over a filename in the right pane to display a thumbnail
preview of the drawing and additional information, including
the drawing location and AutoCAD drawing format (see Fig-
ure 1.31).
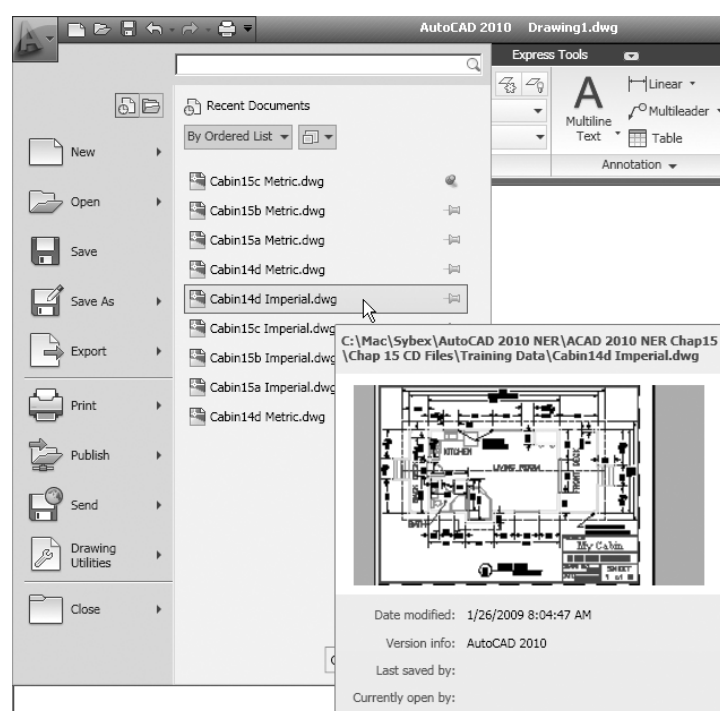
F I G U R E 1 . 3 1 : Displaying a thumbnail of the selected file

N O T E   AutoCAD 2010 drawing files do not use the same drawing format as prior AutoCAD versions. This means that the files created in AutoCAD 2010 are not compatible with any previous versions without requiring conversion. To convert a 2010 drawing to a prior version, open the Application menu and then click Save As ➣ AutoCAD Drawing and choose version you want from the Files Of Type drop-down list at the bottom of the Save Drawing As dialog box.
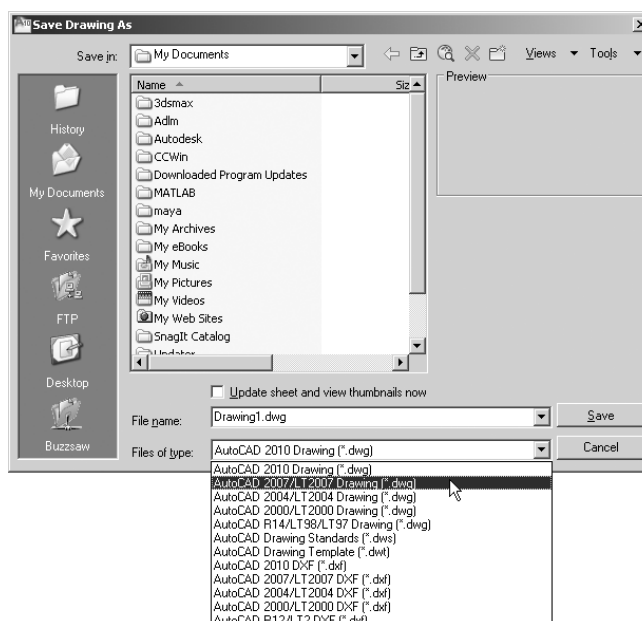
Switching Between Open Drawings

As in many programs, you can have multiple drawing files open in the same session of AutoCAD. Each drawing is stacked behind the drawings in front of it. There are several ways to switch between the open files, including using the Application menu, as shown next.

1. Start or open two or more AutoCAD files.

2. Open the Application menu, and then click the Open Documents option at the top of the left pane. The open drawings are displayed in the right pane, as shown in Figure 1.32.

**3.** Click on any drawing to bring it to the front of the AutoCAD window.

4. You can change the way AutoCAD displays the list of open drawings by clicking the icon near the top of the right pane and choosing one of four sizes of icons or thumbnail images to represent the open drawings.

FIGURE 1.32: Displaying the open drawings in the Application menu

5. Another option for switching between open drawings is to click the Quick View Drawings button in the status bar. This displays thumbnails for the open drawings, and you can click any thumbnail to make that drawing active. Hovering over a thumbnail displays that drawing's layouts (see Figure 1.33). Layouts are designated views of the drawing with scaled viewports looking into the drawing model. Viewports are covered in Chapter 14, "Using Layouts to Set Up a Print."
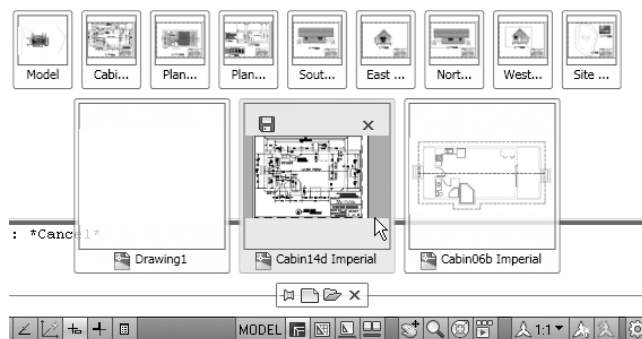
FIGURE 1.33: Displaying the open drawings with the Quick View Drawings tool

Using the Drop-Down Menus

If you prefer to use drop-down menus, they're still available in AutoCAD 2010, although they are turned off by default in the 2D Drafting & Annotation and 3D Modeling workspaces. You can display them by switching to the AutoCAD Classic workspace, by clicking the down arrow at the right end of the Quick Access tool-bar and choosing Show Menu Bar (see Figure 1.34), or by entering **menubar** ↵ **1** ↵. The menu bar isn't used in the first few exercises in this book, but I'll cover the menus here so that you'll be familiar when you use them in the future.
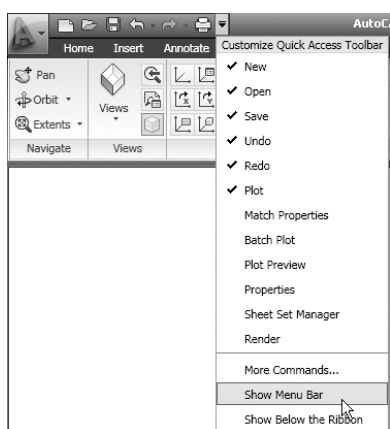
F I G U R E 1 . 3 4 : Turning on the menu bar

The left end of the menu bar, just below the title bar (see Figure 1.35), consists of an icon and 13 (11 if you don't have the Express Tools installed or are using LT) menus. Click any of these to display a drop-down menu. The icon and the File and Edit menus are included with all Windows-compliant applications, although they are somewhat customized to work with AutoCAD. The drop-down menu associ-ated with the icon contains commands to control the appearance and position of the drawing area.

F I G U R E 1 . 3 5 : The AutoCAD user interface showing the menu bar

Commands in the File menu are for opening and saving new and existing drawing files, printing, exporting files to another application, choosing basic utility options, and exiting the application. The Edit menu contains the Undo and Redo commands, the Cut and Paste tools, and options for creating links

between AutoCAD files and other files. The Help menu works like most Windows Help menus and contains a couple of AutoCAD-specific entries as well, including some online resources and a link to the New Features Workshop.

The other eight (or ten) menus contain the most frequently used AutoCAD commands. You'll find that if you master the logic of how the commands are organized by menu, you can quickly find the command you want. Here are short descriptions of the other AutoCAD drop-down menus:

View Contains tools for controlling the display of your drawing file.

Insert Contains commands for placing drawings and images or parts of them inside other drawings.

Format Contains commands for setting up the general parameters for a new drawing or changing the entities in a current drawing.

Tools Contains special tools for use while you're working on the current drawing, such as those used for finding the length of a line or for running a special macro.

Draw Contains commands for creating new objects (such as lines or circles) on the screen.

Dimension Contains commands for dimensioning and annotating a drawing.

Modify Contains commands for changing existing objects in the drawing.

Parametric Contains commands for constraining objects or dimensions to specific values or parameters.

Window Contains commands for displaying currently open drawing windows and lists currently open drawing files.

Express Contains a library of productivity tools that cover a wide range of Auto-CAD functions. Express Tools are widely used but unsupported directly by Autodesk. They might or might not be installed on your computer.

You can turn off the menu bar by clicking the down arrow on the right end of the Quick Access toolbar and choosing Hide Menu Bar, or by entering **menubar**↵ **0**↵.

Using the Toolbars

The AutoCAD toolbars have essentially been replaced by the Ribbon or other features, so I'll only touch on them briefly here. Toolbars, like the Ribbon panels, are collections of tools grouped by similar tasks. Like the Ribbon itself, any toolbar can be displayed or hidden without affecting the others, and they can all be docked to a side or the top of the drawing area or float freely. To display a toolbar,

first display the menu bar; then choose Tools ➢ Toolbars, click a toolbar category, and click the toolbar that you want to open (see Figure 1.36).
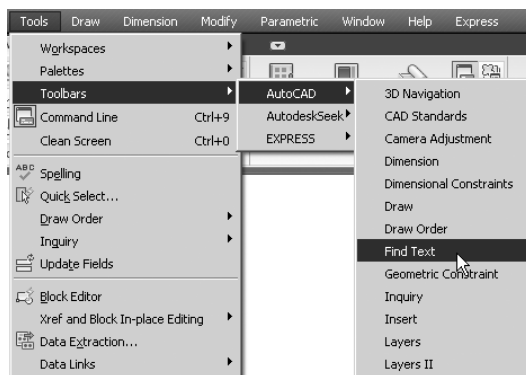
FIGURE 1.36: Selecting a toolbar to display

Take a few minutes to explore the available toolbars, and then close them and hide the display of the menu bar. You'll touch on a few of the toolbars throughout the course of this book, but most of the tools used will be accessed from the Ribbon.

Workspaces

You haven't been directed to make any significant changes to the workspace, but when you do, you can save this setup as a new workspace. Using this feature, you can always return to your preferred layout by activating the saved layout. Follow these steps:

1. Click the Workspace Switching button on the right side of the status bar, and choose Save Current As from the pop-up menu. This opens the Save Workspace dialog box, shown in Figure 1.37.

FIGURE 1.37: The Save Workspace dialog box

2. Enter a name for the workspace and click Save. The dialog box closes, and you are returned you to your workspace. Until you change it or select a different workspace, the new workspace setup will remain as it is now.

When you make changes to the new workspace by adding a toolbar or changing the background color of the drawing area, you can easily update the current workspace to accommodate those changes. Follow steps 1 and 2, naming the workspace again with the same name. You'll get a warning window telling you that a workspace by that name already exists and asking you whether you want the new arrangement to replace the old one. Click Yes.

Using the Keyboard

The keyboard is an important tool for entering data and commands. If you're a good typist, you can gain speed in working with AutoCAD by learning how to enter commands from the keyboard. AutoCAD provides what are called *alias* commands—single keys or key combinations that start any of several frequently used commands. You can add more or change the existing aliases as you become more familiar with the program.

In addition to the alias commands, you can use several of the F keys (function keys) on the top row of the keyboard as two-way or three-way toggles to turn AutoCAD functions on and off. Although buttons on the screen duplicate these functions (Snap, Grid, and so on), it's sometimes faster to use the F keys.

While working in AutoCAD, you'll need to enter a lot of data, such as dimensions and construction notes; answer questions with "yes" or "no," and use the arrow keys. You'll use the keyboard constantly. It might help to get into the habit of keeping your left hand on the keyboard and your right hand on the mouse if you're right-handed, or the other way around if you're left-handed.

Using the Mouse

Your mouse most likely has two buttons and a scroll wheel. So far in this chapter, you have used the left mouse button to choose menus, commands, and options, and you've held it down to drag the Ribbon. The left mouse button is the one you'll be using most often, but you'll also use the right mouse button.

While drawing, you'll use the right mouse button for the following three operations:

► To display a menu containing options relevant to the particular step you're in at the moment
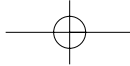
► To use in combination with the Shift or Ctrl key to display a menu containing special drawing aids called *object snaps*

► To display a menu of toolbars when the pointer is on any icon of a toolbar that is currently open

If you have a three-button mouse, the middle button is usually programmed to display the Object Snap menu, instead of using the right button with the Shift key. If you have a mouse with a scroll wheel, you can use the wheel in several ways to control the view of your drawing. I'll cover those methods in subsequent chapters.

AutoCAD makes extensive use of toolbars and the right-click menu feature. This makes your mouse an important input tool. The keyboard is necessary for inputting numeric data and text, and it has hot keys and aliases that can speed up your work; however, the mouse is the primary tool for selecting options and controlling toolbars.

The next chapter will familiarize you with a few basic commands that will enable you to draw a small diagram. If want to take a break and close AutoCAD, choose File ➣ Exit, and choose not to save the drawing.

Are You Experienced?

Now you can. . .

☑ **recognize the elements of the AutoCAD graphics window**

☑ **understand how the Command window works and why it's important**

☑ **start commands from the Ribbon**

☑ **start commands from the command line**

☑ **use the Application menu**

☑ **display the drop-down menus**

☑ **open and control the positioning of toolbars**

☑ **save a workspace of your screen setup in AutoCAD**